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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,604	03/01/2004	Robert W. Johnson JR.	9060-221	9585
20792 7590 01/08/2009 MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627				
EXAMINER DEBERADINIS, ROBERT L				
ART UNIT 2836		PAPER NUMBER		
MAIL DATE 01/08/2009		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/790,604  
Filing Date: March 01, 2004  
Appellant(s): JOHNSON ET AL.

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Timothy J. Wall  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 10/6/08 appealing from the Office action mailed 5/22/08.

**(1) Real Party In Interest**

The real party in interest is assignee Eaton Corporation, a Ohio corporation having a principal place of business at 1111 Superior Avenue, Eaton Center, Cleveland, Ohio 44114.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: Claims 1 - 11, 13, 14, 26-31 and 34 stand rejected under 35 U.S.C. § 102(e) [not 35 U.S.C. § 102(a)] as being anticipated by United States Patent No. 7,181,630 to Kadoi et al. ("Kadoi").

**(7) Claims Appendix**

The listing of Claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An apparatus comprising:  
a plurality of segment loading indicators on a power supply and configured to be electrically coupled to respective load segment outputs of the[[a]] power supply, each of the segment loading indicators operative to provide an indication of a loading of the associated load segment output of the power supply.
2. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output with respect to load rating of the associated load segment output.
3. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output with respect to a load rating of a circuit protection device that protects the associated load segment output.
4. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide an indication of the loading of the associated load segment output within a rated load range of the associated load segment output.
5. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide a visual indication of the loading of the associated load segment output.
6. (Original) An apparatus according to Claim 1, wherein the plurality of segment loading indicators are integrated in the power supply.
7. (Original) An apparatus according to Claim 4, wherein the plurality of segment loading indicators comprises a plurality of segment loading indicators integrated in an uninterruptible power supply (UPS), and wherein respective ones of the segment loading indicators are operative to provide a visual indication of respective loadings of respective load segment outputs of the UPS.
8. (Original) An apparatus according to Claim 1, wherein the plurality of segment loading indicators are integrated in a power distribution device

configured to be connected to the power supply and including the load segment outputs.

9. (Original) An apparatus according to Claim 8, wherein the power distribution device comprises one of a power distribution unit (PDU) or load panel.

10. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide respective visual indications for respective load levels.

11. (Original) An apparatus according to Claim 10, wherein the at least one of the segment loading indicators is further operative to provide a visual indication of an overload.

12. (Original) An apparatus according to Claim 10, wherein the at least one of the segment loading indicators is operative to provide respective color displays for respective load levels.

13. (Original) An apparatus according to Claim 10, wherein the at least one of the segment loading indicators is operative to provide a first visual indication for a first less than fully loaded condition and to provide a second visual indication for a second less than fully loaded condition.

14. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators comprises:

a current detector circuit operative to generate a current detector signal representative of current at the associated load segment output; and

a display circuit operative to generate a visual display responsive to the current detector signal.

15. (Original) An apparatus according to Claim 14, wherein the current detector circuit comprises a current transformer.

16. (Original) An apparatus according to Claim 14, wherein the current detector circuit comprises a current sense resistor.

17. (Original) A UPS comprising:  
a housing having first and second panels;  
a power output at the second panel of the housing;

uninterruptible power supply circuitry supported by the housing and operative to generate a voltage at the power output;

a user interface positioned at the first panel of the housing and operatively associated with the uninterruptible power supply circuitry; and

a loading indicator coupled to the power output and operative to provide a visual indication at the second panel of the housing of a loading of the power output.

18. (Original) A UPS according to Claim 17, wherein the loading indicator is operative to provide a visual indication of a loading of the outlet within a rated load range.

19. (Original) A UPS according to Claim 17, further comprising a protective device that protects the power outlet, and wherein the loading indicator is operative to provide a visual indication of a loading of the power output with respect to a load rating of the protective device.

20. (Original) A UPS according to Claim 17, wherein the power output comprises a plurality of load segment outputs, and wherein the relative loading indicator comprise a plurality of segment loading indicators, respective ones of which are operative to provide respective visual indications of loadings of the respective load segment outputs with respect to load ratings of the load segment outputs.

21. (Original) A UPS according to Claim 20, wherein the user interface comprises a load indicator positioned at the front panel of the housing and operative to provide an indication of an aggregate loading of the UPS load segment outputs.

22. (Original) A UPS according to Claim 17, wherein the loading indicator is operative to provide respective visual indications for respective load levels.

23. (Original) A UPS according to Claim 22, wherein the loading indicator is operative to provide respective color displays for respective load levels.

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24. (Original) A UPS according to Claim 22, wherein the loading indicator is operative to provide a first visual indication for a less than fully loaded condition and a second visual indication for an overloaded condition.

25. (Original) A UPS according to Claim 17, wherein the housing comprises a rack-mountable housing.

26. (Original) A UPS comprising:  
a plurality of load segment outputs;

uninterruptible power supply circuitry operative to provide power at the load segment outputs; and

respective segment loading indicators coupled to the respective load segment outputs and operative to provide respective indications of loadings of the respective load segment outputs.

27. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective indications of respective loadings of the respective load segments with respect to respective load ratings of the load segment outputs.

28. (Original) A UPS according to Claim 27, wherein the segment loading indicators are operative to provide respective indications of respective loadings of the respective load segment outputs with respect to respective load ratings of respective circuit protection devices that protect the respective load segment outputs.

29. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective indications of respective loadings of the respective load segment outputs within respective rated load ranges of the respective load segment outputs.

30. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective visual indications of respective loadings of the respective load segment outputs.

31. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective visual indications for respective load levels.

32. (Original) A UPS according to Claim 31, wherein the segment loading indicator is operative to provide respective color displays for respective load levels.

33. (Original) A method of operating a UPS having a rear panel output and a front panel user interface, the method comprising:

providing a visual loading indication for the output on the rear panel.

34. (Original) A method according to Claim 33, wherein the UPS has a plurality of load segment outputs, and wherein providing a loading indication comprises providing respective loading indications for the respective load segment outputs.

35-37. (Canceled)

#### **(8) Evidence Relied Upon**

7,181,630	KADOI et al.	2-2007
6,320,585	ENGEL et al.	11-2001

#### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections- 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in



section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1-11,13,14,26-31,34 are rejected under 35 U.S.C. 102(e) as being anticipated by KADOI et al. 7,181,630.

CLAIMS 1,26,34.

KADOI et al. discloses a plurality of segment loading indicators configured to be electrically coupled to respective load segment outputs of a power supply, each of the loading indicators operative to provide an indication of a loading of the associated load segment output (col. 23, lines 47-68).

CLAIMS 2,4,5,6,7,8,10,13,27,29,30,31.

KADOI et al. discloses, wherein at least one of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output with respect to load rating of the associated load segment output (fig. 6).

CLAIMS 3,28.

KADOI et al. discloses, wherein at least one of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output with respect to a load rating of a circuit protection device that protects the associated load segment output ( FIG. 9, col. 29, lines 59 plus).

CLAIM 9,11.

KADOI et al. discloses, wherein the power distribution device comprises one of a power distribution unit (PDU) or load panel (FIG. 9).

CLAIM 14.

KADOI et al. discloses, wherein at least one of the segment loading indicators comprises: a current detector circuit operative to generate a current detector signal representative of current at the associated load segment output; and a display circuit operative to generate a visual display responsive to the current detector signal (col. 30, lines 50 plus).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed Or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-22, 24, 25, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over KADOI et al. 7,181,630.

CLAIMS 15, 16.

KADOI et al. discloses an apparatus according to claim 14 wherein power to a circuit is managed. It is obvious that power is a function of the current in the circuit and is part of the measurement to determine power delivered in the circuit thus current detection is obviously part of the UPS management system.

KADOI et al. is silent with respect to the current transformer or the current sense resistor both of which are well known in the art to sense the current through a circuit.

It would have been obvious to one having ordinary skill in the art at the time of this invention was made to use a current transformer or a current sense resistor to sense current in the circuit since it was known in the art to use current sensing devices such as these devices to sense current in a circuit.

CLAIMS 17-22, 24, 25, 33.

KADOI et al. discloses an uninterrupted power supply managing system is described for managing a plurality of small UPS devices, the small UPS devices are connected to power supply routes between wall sockets and load devices (abstract). The small devices obviously are contained in housings having panels with user interface means and operative to generate a voltage at the power output.

KADOI et al. teaches panels, indicators and panels, but is silent as to a second panel.

It would have been obvious to merely interface, indicators and panels in an UPS to manage the UPS since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Claims 12, 23, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over KADOI et al. 7,181,630 in view of ENGEL et al. 6,320,585.

CLAIMS 12, 23, 32.

KADOI et al. discloses the UPS apparatus as claimed having indicators to indicate segment loading.

KADOI et al. does not disclose indicators wherein the segment loading indicator is operative to provide respective color displays for respective load levels.

ENGEL et al. discloses segment indicators operative to provide respective color displays for respective bandwidth utilization of a segment.

It would have been obvious to one having ordinary skill in the art at the time of this invention to have modified the segment loading indicator to have a color display to display respective load levels on a segment to enhance the indication for the segment loading.

#### **(10) Response to Argument**

APPELLANTS argue, in contrast with an apparatus as recited in Claim 1, Kadoi appears to describe a system of UPS's 1 that may each represent a load segment, the indication of which may be displayed on computers 2, 3, 4, 5, or 10 running an application, such as a UPS group controller program 21. See, e.g., Kadoi, FIG. 1.

Regarding indication, Kadoi appears to describe that image data may be displayed on the computer that may be the UPS group controller. Kadoi, Figure 6, column 10, lines 58-59. The image data may be generated from operating state information "read from the group data base 27." Kadoi, column

16, lines 39-41. "[A]n indicator image file (an indicator image 1 g shown in FIG. 6 is contained in the file)" is stored as a simple image file. Kadoi, column 16, lines 31-37. Thus, Kadoi does not disclose or suggest that the image file be used "on the power supply," to provide indication, recited in Claim 1.

Claim 1 recites:

An apparatus comprising:  
a plurality of segment loading indicators on a power supply and configured to be electrically **coupled** to respective load segment outputs of the power supply, each of the segment loading indicators operative to provide an indication of a loading of the associated load segment output of the power supply.

The Examiner disagrees with the Appellant's assessment of the reference. KADIO et al. teaches an uninterruptible power supply managing system described for managing a plurality of small UPS devices, the small devices are connected to power supply routes between wall sockets and load devices. Figure 24 illustrates the UPS station showing the relationship of the UPS station electrical devices, 141 designated as the large UPS, 142 (main panel) and 143 (sub-panel) designated as panel boards, 144 the wall sockets, 1 designated as the small UPS. The Appellant is correct wherein the reference teaches that an indicator file generated from data in a database is not a loading indicator that provides an indication at a Panel of the UPS at which the power output is also located because the reference teaches an improvement over the small system wherein when a large number of small UPS devices are used dispersedly as described above, an administrator who manages the small UPS devices has to visit each of the locations where each of the small UPS devices is installed, and has to check each of the small UPS devices one by one, in order to confirm the operating state and the setting of each of the small UPS devices (col. 1, lines 57-63). The information the administrator collected was the information displayed on an indicator on the UPS device where the power output is positioned. The argument that the power output indicator is positioned on a second panel is considered to be merely an arrangement of parts. KADIO et al. teaches visual loading indicator for a UPS device located external to the UPS device.

KADIO et al. teaches image file contains operating information on the small UPS device includes the value of input power (current and voltage) to the small UPS device, the value of

load power of the small UPS device (col. 14, lines 36-40). This evidence that this information exists at each of the small UPS devices for an administrator who manages each of the small UPS devices to check is evidence for the segment loading indicators operative to provide an indication of a loading of the associated load segment output of the power supply inherently exists at each of the small UPS devices or segments. The small UPS device being the power supply supplying the load segment the small UPS is connected to.

Thus, Kadoi et al. does suggest that the image file is used "on the power supply," to provide indication, recited in Claim 1.

APPELLANTS argue, Claim 17 recites: a UPS comprising:  
a housing having first and second panels;  
a power output at the second panel of the housing;

uninterruptible power supply circuitry supported by the housing and  
operative to generate a voltage at the power output;

a user interface positioned at the first panel of the housing and  
operatively associated with the uninterruptible power supply circuitry; and

a loading indicator coupled to the power output and operative to  
provide a visual indication at the second panel of the housing of a loading of  
the power output.

**Kadoi et al. teaches panels, indicators and panels**, but is silent as to a second panel.

*As noted in the Amendment and Response, "a loading indicator coupled to the power output and operative to provide a visual indication at the second panel" (where the power output is positioned) may provide a user with segment loading information that is proximate the power output. In this manner, a user seeking to add loads or reconfigure existing loads can use the segment loading indicator on the power supply to avoid adding a load to a load segment that may be fully or heavily loaded already. Since Kadoi neither seeks to nor provides such advantages, any motivation to modify the teachings of Kadoi appear to be gained through hindsight analysis based on Appellants' Specification.*

*Moreover, In re Japiske, as cited in the Final Action, more precisely states that there is no invention in shifting a component to a different position when the operation of a claimed device is not modified thereby. See In re Japiske, 37*

C.C.P.A. 1026, 181 F.2d 1019, 86 U.S.P.Q. 70, 73 (1950). Appellants respectfully submit that the modification of Kadoi as suggested by in the Final Action would modify the operation of the claimed device.

KADIO et al. teaches image file contains operating information on the small UPS device includes the value of input power (current and voltage) to the small UPS device, the value of load power of the small UPS device (col. 14, lines 36-40). This evidence that this information exists at each of the small UPS devices for an administrator who manages each of the small UPS devices to check is evidence for the segment loading indicators operative to provide an indication of a loading of the associated load segment output of the power supply inherently exists at each of the small UPS devices or segments. The small UPS device being the power supply supplying the load segment the small UPS is connected to. KADIO et al. may not explicitly teach *a user seeking to add loads or reconfigure existing loads can use the segment loading indicator on the power supply to avoid adding a load to a load segment that may be fully or heavily loaded already.*

Since all the elements of the structure are disclosed it would be obvious to one having ordinary skill to observe the segment loading before adding a load to the segment to prevent overloading the small UPS device, the second panel being the panel on the small UPS device connected to the segment load.

KADOI et al. teaches the UPS group controller may be joined in a housing with its corresponding small UPS device or may be separately formed and connected to the small UPS device by the communication cable. Further by joining the UPS group controller with the small UPS device in a housing the UPS group controller including its hardware is specially designed for the small UPS device (col. 13, lines 1-31).

The UPS group controller has a higher communication interface connected to the communication router using communication cable, a lower communication interface connected to the small UPS device using the communication cable, a timer for generating time, an input output port, a monitor, etc. (col. 13, lines 31-68).

Examiner concludes: It would have been obvious to merely interface, indicators and panels in an UPS to manage the UPS since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japiske, 86 USPQ 70.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Robert DeBeradinis/

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